

SOME ALEURITES TAXA IN HAWAII  
AND  
A NOTE REGARDING ARGEMONE

Otto & Isa Degener

Due to Dr. B.C. Stone's wanderlust and resulting peregrinations from the University of Hawaii to the Smithsonian, then to the College of Guam, and now to the University of Malaya at Kuala Lumpur, our plans, agreeable to us three by letter to jointly describe a "mango-leaved" taxon of Aleurites, went awry. In fact, even the small specimen we had mailed him on loan as type and cotypes is presumably stored in some forgotten herbarium cabinet in one of the above institutions and presently beyond reach.

Now we two find the new taxon named in Pacific Science as a nom. nud. As agreed by past correspondence (much pertaining to plants has been deposited in the Hunt Botanical Library in Pittsburgh), we three validly name this novelty as follows:

ALEURITES MOLUCCANA var. KATOI Degeners & Stone. A var. moluccana folia lanceolata differt.  
KATO KUKUI, MANGO-LEAVED KUKUI

Aleurites moluccana var. katoi Degeners & Stone nom. nud., ex Stone in Pac. Sci. 21:553. 1967.

The variety katoi differs mainly from the var. moluccana in bearing lanceolate leaves occasionally widened by two obscure lobes near base of blade.

As stated on page 553, the taxon "is named for Mr. Tadayuki Kato of Kauai High School, who has been very helpful to me and to other visiting botanists. The holotype specimen, taken from the tree on the grounds of Kauai High School in Lihue, is at the Bishop Museum (Stone 3427, collected on 15 April 1960)." That "A further specimen collected by Dr. Degener is also available" is not strictly correct. Otto & Isa Degener 23,956 was collected by Mr. Hans W. Hansen from a cultivated tree on Kauai on Sept. 24, 1955. Whether Degeners 23,956 of 1955 and Stone (collected with Kato according to herbarium sheet label) 3,427 of 1960 are from the same tree, we do not know. According to Mr. Hansen, his plant was a cultivated one and was said to be native to Samoa.

In Hawaiian and most other Polynesian dialects, typical Aleurites moluccana is known as "kukui" or some variant of this spelling. In English it is often called the "candlenut tree," referring to its former use as a source of light. The

Kato kukui, with its unusual "mango leaves," is conspicuous and attractive. So by this time it may be seen cultivated here and there about residences and in parks.

ALEURITES MOLUCCANA var. REMYI (Sherff) Stone, the Remy kukui, is a reduction made in the same publication by Stone of A. remyi Sherff in Field Mus. Bot. Ser. 17:558. 1939. We early followed Dr. Sherff, printing an illustrated description of this taxon in our Flora Hawaiiensis. After studying a large series of sheets of Aleurites recently, we noted that both the remyi and the katoi tendencies occur in various islands of the South Pacific. We now tend to the belief that Stone's interpretation may be the superior one.

The first paragraph of Stone's page 552 is obviously garbled: The "mango-leaved" kukui (var. katoi) with practically no lobes is obviously not the same as the "Kona" kukui (var. remyi) with very narrow lobes.

ALEURITES MOLUCCANA var. AULANII Deg. & Deg. var. nov. Arbor  
seminibus circa 23 mm. latis.  
AULANI KUKUI, SMALL-SEEDED KUKUI

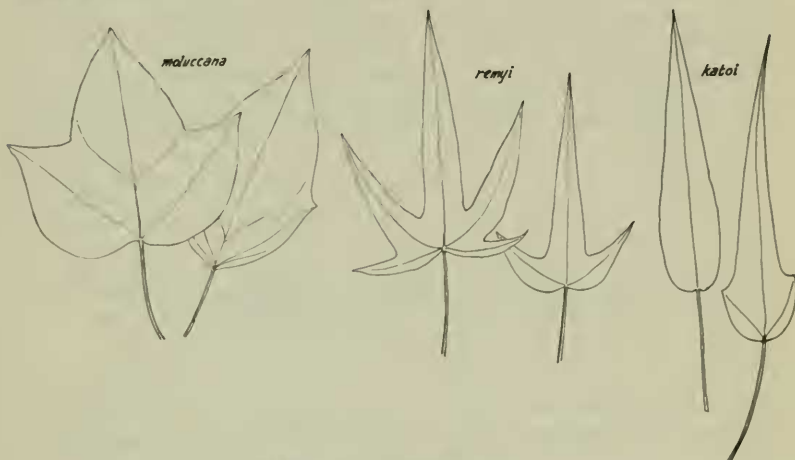
This hitherto undescribed variety has seeds about 23 mm. wide, 15 mm. thick and 20 mm. high; while the ubiquitous var. moluccana has them commonly 30 mm. wide, 23 mm. thick and 30 mm. high. The type is Deg. & Deg. 32,481. Collected in Kukuihaele, Hawaii, by Stanley and Aulani Loo, March 28, 1971, and deposited in NY.

The botanical recognition of this taxon was fortuitous. Forced by a broken tooth into Dr. Robert N. Ogawa's dental chair in Hilo, Hawaii, the kane patient learned that Mrs. Ogawa was an amateur botanist, the daughter a professional botanist with the University of Michigan, and Dr. Ogawa himself an ardent maker of seed lei or necklaces as a hobby. In the case of the kukui "nut," turned ebony black by burial in a taro patch, Dr. Ogawa explained his perfected method of preparing the seeds. The conversation then changed to the prevalent rumor of a small-seeded kukui growing in isolated Waipio Valley, District of Kohala. Apparently only one tree remains in this once heavily populated valley, badly mauled by careless collectors of its prized seeds. The dentist was a bit evasive.

Returning for further treatment days later, the patient was surprised and delighted to receive from Dr. & Mrs. Ogawa a truly regal lei for Mrs. Degener consisting of 25 matched, dwarf kukui seeds originally collected in Waipio Valley and neighboring Kukuihaele. "Kukuihaele," contrary to our hope, does not refer to this rare kukui variety. The complex word

means "moving kukui tree," probably in allusion to the action on the trees of the strong trade winds funneled between the heights of Mauna Kea and Kohala.

As one surprise deserves another, the writers named this new taxon provisionally var. ogawae, mailing a copy of the manuscript to Mrs. Ogawa with the plea she furnish good flowering and fruiting material from a chosen tree as type and co-type specimens.



After B.C. Stone

The third surprise was an answering 'phone call from Mrs. Ogawa: The couple had not collected the material at all. The collector had been Mr. Stanley \*Kolomona Loo, a resident of Hono-kaa of Chinese-Hawaiian ancestry, and his son Aulani. The family knows of two trees growing on such precipitous terrain that the father must help his son Aulani to and from the trees with aid of a rope. As these trees are such a rarity and might be injured by vandals or careless visitors, we feel it wise not to divulge their location. Because of Mrs. Ogawa's insistence and Mr. Loo's knowledge and advice, we here name the plant in his son's honor Aleurites moluccana var. aulanii. The name "Aulani" is particularly appropriate for the kukui or candlenut as it means "Light of Heaven" in Hawaiian.

The unspoiled native Hawaiian forests (some have escaped lumbering, or bulldozing for other commercial interests) seem

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\*As the Hawaiian alphabet lacks the letter "S", "K" is substituted for it.

with endemic birds and endemic insects, all nicely adjusted to one another over eons of time. On the contrary, as we have mentioned elsewhere, our kukui forests are conspicuously silent except for the occasional thud of a heavy kukui fruit striking the ground; nor are they teeming with insects. Furthermore, thus far no one has unearthed kukui pollen among other fossil pollens in old, undisturbed layers of earth. These observations and the fact that the kukui is so valuable to the Polynesians for light, food, medicine, native jewelry, tapa dye, gum and for tanning fishnets moves us to the belief that the tree is of aboriginal introduction from the South. Birds and insects, during the couple thousand years of its possible introduction, simply have not yet had time to become adjusted to the plant or to evolve with the plant as they have done to the unquestionable endemic ones in the Hawaiian flora.

Whether the rumor is true regarding the arrival at least of one tree of variety kato'i coming from Tahiti or Samoa presumably since the landing of Captain Cook in 1778, we are almost certain that varieties remyi and ualanii were here before that date. Did such taxa develop de novo in the Hawaiian Islands, or are they relics of taxa the Polynesians had brought with them from the South? If the latter is true, a careful comparison in museums of taxa in the Hawaiian Archipelago with those in the South Seas should add evidence as to the migrations and island stop-overs made before these vikings of the sunrise settled in Hawaii Nei to intermarry, multiply and become amalgamated into a distinct race recognizable by their distinctive features as the true kamaaina.

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Should the pricklepoppy once so common on Oahu be Argemone glauca L., A. glauca Pope, A. glauca (Prain) Degener or A. glauca (Prain) Deg. & Deg.? Regarding Dr. Stone's assumptions about the Argemone binomial, appearing in the same article on page 550, the kane writer had the simple explanation had he been asked for it. He enrolled at the University of Hawaii for the 1922-23 school year, frequently taking the Honolulu trolley to the end of the Kaimuki line. There he botanized in the red 'dobe soil and dust, collecting such xerophytes as Waltheria, Sida, Lipochaeta, Jacquemontia and Argemone, plants now replaced by houses and watered lawns with bordering cultigens. A New Yorker, he returned to his home, enrolling for an advanced degree at Columbia University, though spending most of his time critically identifying his Hawaiian collections at the affiliate, the New York Botanical Garden. There he identified the Argemone, judging its correct name to be Argemone glauca (Prain) Degener and thus noting it in his manuscript for a "Flora Hawaiiensis" he hoped eventually to publish. In fact, he printed the name "Argemone glauca" in 1930 in his "Plants Hawaii National Park."

While he was at his home on Vancouver Highway, later renamed University Avenue, Honolulu, Dr. Willis Pope, first President of the College of Hawaii in fact but not in name and later prominent horticulturist of the government experiment station in Makiki Valley, came to visit him with the bulky manuscript of his "Manual Wayside Plants Hawaii." He left it with the writer, who spent the better part of a week sometimes with Dr. Pope but mostly alone, revising it. One of the first deletions he recommended which, however, was not followed, were marine algae! Among one of the many corrections he made was changing Pope's name of Argemone mexicana to A. glauca (Prain) Degener. Whether Dr. Pope or more likely some later reviser of the same manuscript altered the authority to "Argemone glauca L.", wissen nur die Götter. As the Degeners have been in frequent correspondence for decades with Dr. Stone mainly concerning the genus Pelea, a simple inquiry about Argemone would have saved the making of unnecessary assumptions.

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#### ADDITIONAL NOTES ON THE GENUS HIEROBOTANA. II

Harold N. Moldenke

##### HIEROBOTANA Briq.

Additional bibliography: Moldenke, Phytologia 21: 31. 1971.

##### HIEROBOTANA INFLATA (H.E.K.) Briq.

Additional citations: ECUADOR: Imbabura: Firmin 366 (W—11420592). Pichincha: Benoist 2091 (S); Herb. Inst. Cienc. Nat. Univ. Cent. Quito 11 (Ac); Prescott 302 (Du—377624, N). Tunguragua: A. S. Hitchcock 21737 (W—1196491); Pachano 144 (W—1044625), 156 (W—1044637). Province undetermined: L. Fraser s.n. (Bm). PERU: Ica: Hrdlicka s.n. [March 1913] (W—602736). Department undetermined: Barclay 2363 (Bm).